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| 10/618,708 | 07/15/2003 | Jose L. Ramos | 017750-801 | 4909 |

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Alexandria, VA 22313-1404

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| EXAMINER |
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PAN, YUWEN

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| ART UNIT | PAPER NUMBER |
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2618

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03/13/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|---------------------------------------|--|
| Office Action Summary | Application No. 10/618,708 | Applicant(s) RAMOS, JOSE L. | |
| | Examiner YUWEN PAN | Art Unit 2618 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 December 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Arguments

1. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pozgay et al (US007079815B2) in view of Saxler (US007030428B2) and further in view of Duffalo et al (U.S. Patent No. 4,890,069).

Per claim 1, Pozgay discloses an apparatus (e.g. monolithic microwave integrated circuit transceiver) comprising: an antenna (see figure 1 and item 14); an GaAs amplifier (see item 28) (e.g. balanced amplifier of an MMICs) connect to the antenna; a first switch that connect a transmit path, connected to the amplifier, which provides a signal for amplification of the amplifier; and a second switch that connect a receive path, connect to the amplifier, which a switch controller (the gain/phase control unit 22) that is programmed to adjust positions of the first and second switches (see column 1 and lines 50-67, column 3 and lines 34-colun and lines 14). Pozgay doesn't expressly teach the switching between transmit or receive path of the antenna is after a predetermined amount of time has elapsed since a prior adjustment. It is clearly obvious that a transceiver antenna always switch back and forth between the transmitting and

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receiving mode and the time for each mode is predetermined based on the system clock.

Therefore, it is obvious to one ordinary skill in the art at the time the invention was made to further specify that each mode have its own time frame such that the remote terminal is about to synchronize with the transceiver when to receive or transmit. Pozgay doesn't teach that the amplifier is fabricated in GaN-based material. Saxler teaches that High electron mobility transistors can be fabricated in the gallium nitride/aluminum gallium nitride (GaN/AlGaN) material (see column 1 and lines 63). It would have been obvious to one of the ordinary skill in the art at the time the invention was made to combine the teaching of Saxler with Pozgay's device to have the potential to generate large amounts of PF power for the power amplifier in which Pozgay is trying to utilize (see column 1 and lines 65). Combination of Pozgay and Saxler does not teach the amplifier includes a plurality of AlGaN amplifiers connected such that a drain and a gate of the plurality of amplifiers have a common source. Duffalo teaches that an amplifier includes a plurality of transistors connected such that a drain and a gate of the plurality of amplifiers have a common source (see figure 1 see column 2 and lines 19-48). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the references to implement a smaller and less expensive amplifier.

Per claim 2, Pozgay further teaches a switch (item 12) with an output connected to the amplifier, a first input connected to the received path and a second input connected to the transmit path (see figure 1).

Per claim 3, Pozgay further teaches a second switch (item 18), wherein the second switch has first switch positions connecting a signal for transmission to the antenna, and a second switch position connecting the receiving path to the antenna (see figure 1).

Per claim 4, Pozgay further teaches that a switch controller (see item 22) which controls the first and second switches to selectively connect the antenna to the amplifier for amplification of a received signal and the amplifier to the antenna for amplification of a signal for transmission (see column 4 and lines 14-18).

Per claim 5, Pozgay further teaches that the AIGaN amplifier comprises three amplifiers (item figure 1 and item 60-64).

Per claim 6, Pozgay further teaches a high frequency amplifier for transmitting and receiving. Although Pozgay doesn't teach that such amplifier is formed of high electron mobility transistor (HEMT), it is well known in the art to have HEMT for using in a high frequency amplifier to provide to enhance amplification.

Per claim 7, Pozgay further teaches that the AIGaN amplifier are monolithic microwave integrated circuits (see column 2 and lines 1-4).

Per claim 8, Pozgay discloses a method for transmission and reception of signals comprising: setting a first switch (see figure 1 and item 18) to a first position, the first position

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connects a signal for transmission to an amplifier (see figure 2); setting a second switch to a first position, the first position connects the amplified signal for transmission to an antenna; setting the second switch, the second position connects a signal received from the antenna to a receive path; and setting the first switch, after the predetermined amount of time, to a second position, the second position connecting the receive path to the amplifier (see column 2 and lines 13-46). Pozgay doesn't expressly teach the switching between transmit or receive path of the antenna is after a predetermined amount of time has elapsed since a prior adjustment. It is clearly obvious that a transceiver antenna always switch back and forth between the transmitting and receiving mode and the time for each mode is predetermined based on the system clock. Therefore, it is obvious to one ordinary skill in the art at the time the invention was made to further specify that each mode have its own time frame such that the remote terminal is about to synchronize with the transceiver when to receive or transmit. Pozgay doesn't teach that the amplifier is fabricated in GaN-based material. Saxler teaches that High electron mobility transistors can be fabricated in the gallium nitride/aluminum gallium nitride (GaN/AlGaN) material (see column 1 and lines 63). It would have been obvious to one of the ordinary skill in the art at the time the invention was made to combine the teaching of Saxler with Pozgay's device to have the potential to generate large amounts of PF power for the power amplifier in which Pozgay is trying to utilize (see column 1 and lines 65).

Per claim 9, Pozgay further teaches that the second switch is in the second position the amplified signal from the receive path is connected to receiver circuitry (see column 3 and line 50-column 4 and line 13).

Conclusion

3. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YUWEN PAN whose telephone number is (571)272-7855. The examiner can normally be reached on 8-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anderson D. Matthew can be reached on 571-272-4177. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Yuwen Pan/
Primary Examiner, Art Unit 2618
March 4, 2008